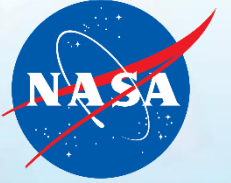


National Aeronautics and  
Space Administration



## Phase II Proposal Prep

November 16, 2022

## NASA SBIR/STTR Program

[sbir.nasa.gov](https://sbir.nasa.gov)



# AGENDA

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- How to Prepare for Phase II – The Basics
- Technical Proposal
- **Focused Q&A 1**
- Commercialization and Business Plan
- Technical and Business Assistance (TABAs)
- Post Phase II Opportunities
- **Focused Q&A 2**
- **Open Q&A**
- Key Takeaways
- Success Stories



# How to Prepare for Phase II – The Basics

# SBIR Phase II Solicitation Specifics



- The 2022 SBIR Phase II solicitation was posted to the NASA SBIR/STTR website on October 31<sup>st</sup>.
- Plan to review the solicitation to start planning for your proposal submission.
- **Proposal submissions via the EHB are planned to open on December 13, 2022**
- **Deadline is January 25, 2023, 5:00 pm ET**
- [https://sbir.nasa.gov/solicitations\\_p2](https://sbir.nasa.gov/solicitations_p2)

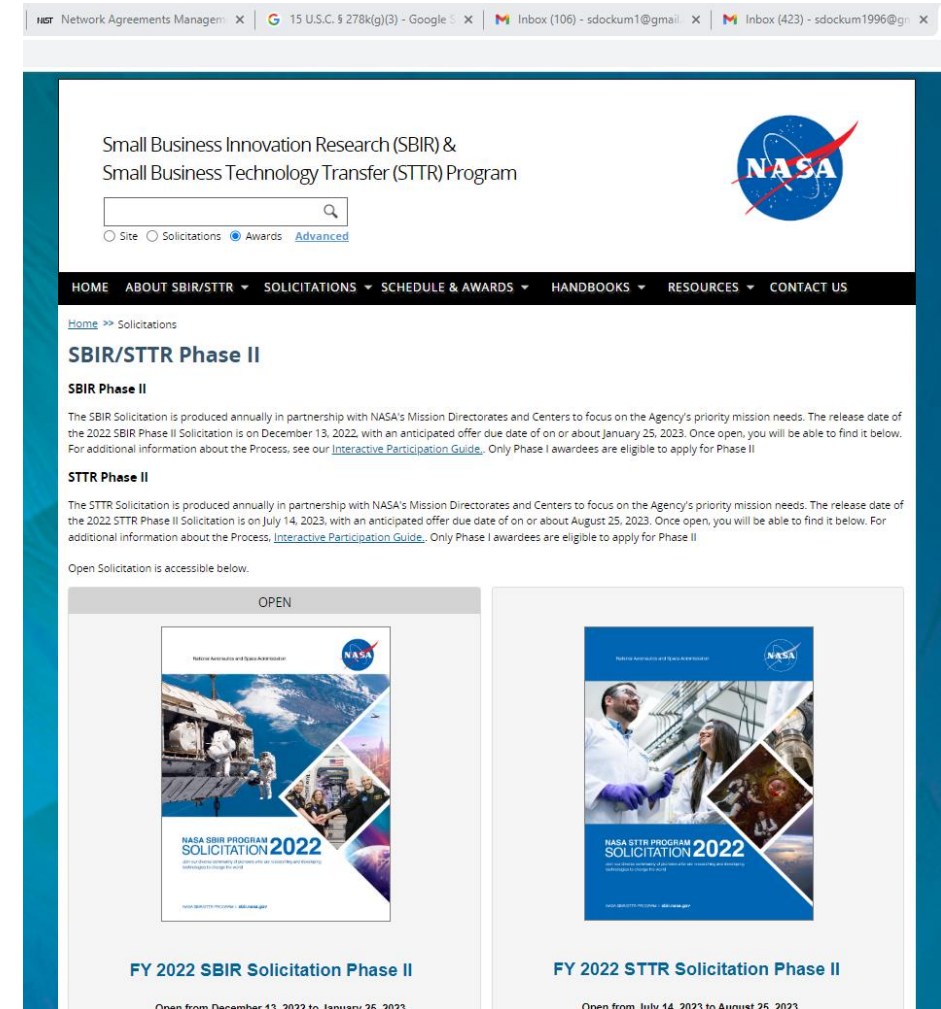
The screenshot shows the NASA SBIR/STTR website interface. At the top, there's a header with the NASA logo and the text "Small Business Innovation Research (SBIR) & Small Business Technology Transfer (STTR) Program". Below this is a navigation bar with links: HOME, ABOUT SBIR/STTR, SOLICITATIONS, SCHEDULE & AWARDS, HANDBOOKS, RESOURCES, and CONTACT US. The main content area is titled "SBIR/STTR Phase II" and "SBIR Phase II". It contains text about the solicitation process, including the release date of the 2022 SBIR Phase II Solicitation (December 13, 2022) and the anticipated offer due date (January 25, 2023). Below this, there's a section for "STTR Phase II" with similar information. At the bottom, there are two large buttons labeled "FY 2022 SBIR Solicitation Phase II" and "FY 2022 STTR Solicitation Phase II", each with a corresponding "Open from" date range.



# STTR Phase II Solicitation Specifics



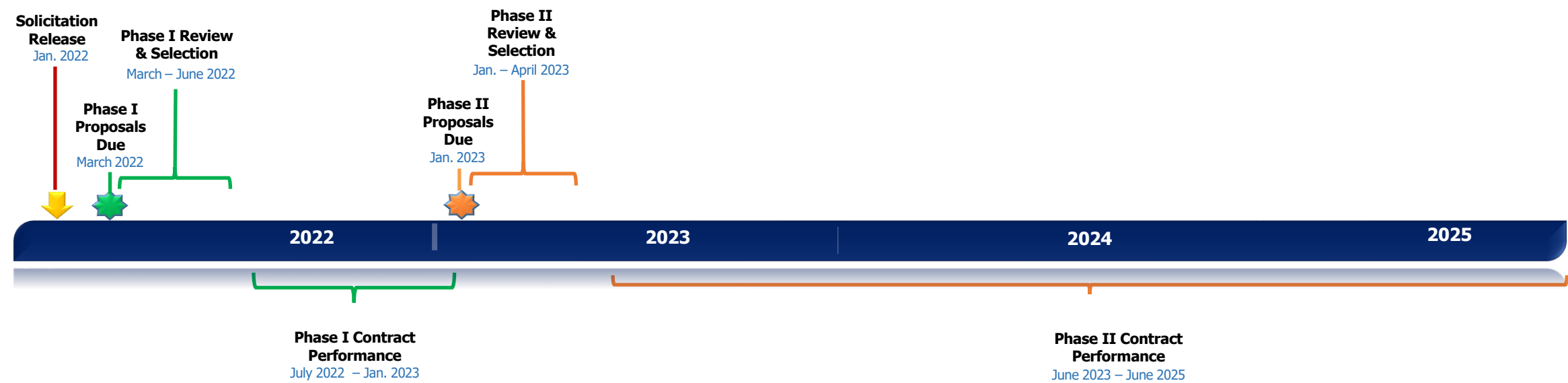
- The 2022 STTR Phase II solicitation is planned to be posted to the NASA SBIR/STTR website by end of May 2023.
- Plan to review the solicitation to start planning for your proposal submission.
- **Proposal submissions via the EHB are planned to open on July 14, 2023**
- **Deadline is August 25, 2023, 5:00 pm ET**
- [https://sbir.nasa.gov/solicitations\\_p2](https://sbir.nasa.gov/solicitations_p2)
  - The STTR solicitation will be posted on the same website as the current SBIR Phase II solicitation.



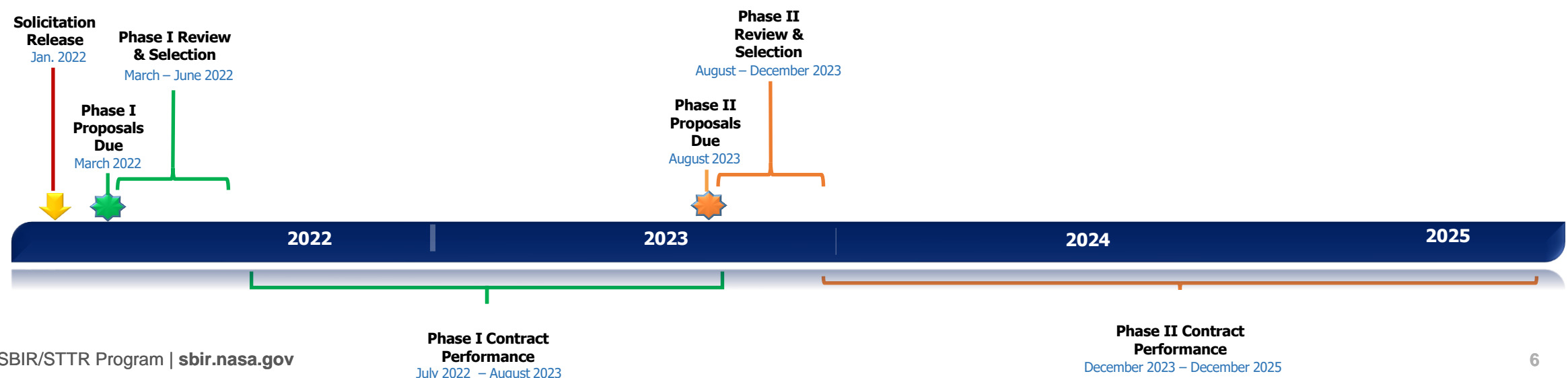
# SBIR and STTR Technology Development Timeline



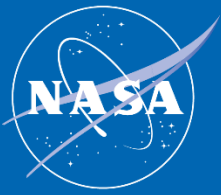
SBIR



STTR



# Competitive Phase II Proposals



- Are **clear, concise, and comprehensive**.
- Describe the proposed innovation **relative to the current state of the art and the current market**.
- Address Phase I results relative to:
  - Scientific and technical merit and feasibility
  - Relevance to NASA interests
- Provide planning for a focused project that:
  - Builds on Phase I results to further validate and de-risk the concept
  - Ensures that there is a clear **transition of the innovation** into products and services for NASA mission programs, other Government agencies, and non-Government markets
- Consider the evaluation criteria laid out in Chapter 4 of the solicitation.

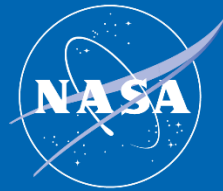
# Did you know?



SAM registration must be renewed **annually**;  
processing time can take up to **two weeks**.

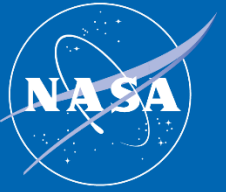


# Proposal Guidance



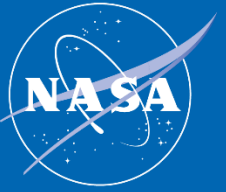
- Your Phase I contract serves as the Request for a Phase II Proposal.
  - The Phase II proposal is due on the last day of your Phase I Period of Performance (POP).
- Plan ahead and **submit early**.
  - Allow time to correct any issues by the deadline. **NASA will not accept late proposals.**
  - For STTR – Ensure you have all required agreements in place with the Research Institution (RI). Chapter 3 of the solicitation will provide information on the RI agreements.
- For general administrative/non-technical questions, contact the Helpdesk.
  - Email: [sbir@reisystems.com](mailto:sbir@reisystems.com)

# Administrative Requirements



- Follow format requirements in the solicitation.
- Note page suggestions and requirements for certain sections.
  - Part 4: Work Plan – **Suggested** page limit: 10 pages
  - Part 7: Commercialization and Business Plan – **Required** minimum of 2 pages; maximum of 8 pages.
- All registrations (e.g., SAM, SBA, EHB) must be current and correct.
- **Your proposal can be rejected for failing to adhere to these requirements.**

# Did you know?



70% of small businesses wait until the **last day** to submit, leaving **zero** margin for error.



# Technical Proposal

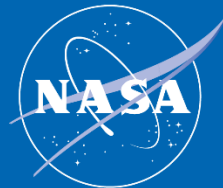
# Phase II Technical Proposal



## 10 Required Parts:

1. Table of Contents
2. Identification and Significance of the Innovation and Results of the Phase I Proposal
3. Technical Objectives
4. Work Plan
5. Related R/R&D
6. Key Personnel and Bibliography of Directly Related Work
7. **Commercialization and Business Plan**
8. Facilities/Equipment
9. Subcontractors and Consultants
10. Related, Essentially Equivalent, and Duplicate Proposals and Awards





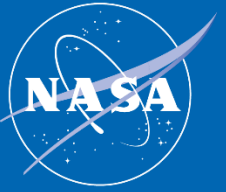
# Focused Q&A 1

Topics: How to Prepare for Phase II – The Basics; Technical Proposal



# Commercialization and Business Plan

# Did you know?



Many small businesses are **hyper-focused** on technology development, but that is **not enough** for a Phase II award.

# Commercialization and Business Plan



## Why does NASA ask for this and why is it important?

- SBIR and STTR programs are federally mandated to promote innovation and commercialization of innovations.
- All SBIR/STTR programs are required to request a Commercialization and Business Plan from Phase II applicants.
- NASA has already made an investment in your innovation in Phase I and is considering making additional investments in your innovation in Phase II.
- Your plan should indicate viable markets, customers, and/or investors for your innovation.
  - These can be government markets, non-government/commercial markets, or both.



## What should be in the plan?

Refer to the solicitation, Part 7: Commercialization and Business Plan (p.21) for a detailed description of what is required for NASA to validate that you have the knowledge and ability to commercialize the innovation being proposed.

### 1. Market Feasibility and Competition Strategy

- Target market(s), competitive advantage(s), potential customers and applications, projected market size, projected time to market and estimated market share, anticipated competition from alternative technologies.

### 2. Commercialization Strategy

- Present the commercialization strategy and its alignment to your business plans.





## What should be in the plan? (continued)

### 3. Financial Strategy

- Describe financial resources committed to the transition of the innovation. Indicate investment plans, sales, licensing, etc. Indicate the financial commitment needed to meet the commercialization goals.

### 4. Intellectual Property

- Describe plans and current status of efforts for IP protection and how this will support your commercialization goals.



## How will the plan be evaluated?

Factor 4: Commercialization and Business Planning: The proposal will be evaluated for the commercial potential and feasibility of the proposed innovation and associated products and services as described in Part 7.

- Refer to Section 4.2 (p.28-30) of the solicitation to ensure you understand how NASA will evaluate your plan.

# Opportunities for Phase II



As you develop your Phase II proposal, consider opportunities that you may have access to in your Commercialization and Business Plan.

- **TABA Opportunity** | Technical and Business Assistance
- **Post Phase II Opportunities** | Phase II Extended (II-E), CCRPP, and I-Corps

These can be **critical to your success** in achieving commercialization.



# Technical and Business Assistance (TABA)

# Technical and Business Assistance (TABA)

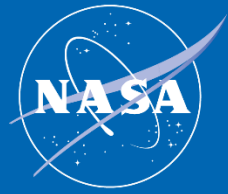


## What is it?

- TABA services are aimed at improving the commercialization success of SBIR/STTR awardees
  - e.g., product sales, IP protections, market research, market validation, development of regulatory plans and manufacturing plans
- Supplemental funding available on Phase I and II SBIR/STTR contracts over and above the amount of the technical effort
  - Phase I: Up to \$6,500
  - **Phase II: Up to \$50,000**



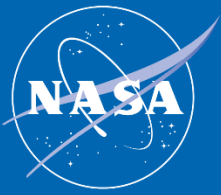
# Technical and Business Assistance (TABA)



## How do I get it?

- All TABA requests must be submitted as part of the Phase II proposal.
- If you elect to request TABA at Phase II, your proposal must include a **TABA Needs Assessment** per the requirements in the solicitation.
  - Includes proposed vendor and qualifications, services and cost, expected outcome and metrics, plan to submit summary deliverables, and more
  - Addresses recommendations made in the TABA Needs Assessment conducted at Phase I, if applicable.
- TABA is not considered under the technical evaluation of the Phase II proposal.

# Technical and Business Assistance (TABA)



## How do I use it?

- TABA funding must go to a third-party service provider; it may not be used internally by the award recipient.
  - While there is no Federally approved list of TABA vendors, there are online resources focused on the entrepreneurial ecosystem located at SBIR.gov, as well as simple web searches for TABA vendors.
  - Note: A NASA facility or lab cannot be a TABA vendor. In addition, TABA funds are not for testing and validation of the innovation, as that work would be conducted under the technical work plan.
- If you received TABA funding with your Phase I, NASA encouraged Phase I awardees to use that funding to develop:
  - Phase II TABA Needs Assessment (Required if requesting TABA at Phase II)
  - Phase II Commercialization and Business Plan (Required for all Phase II proposals)

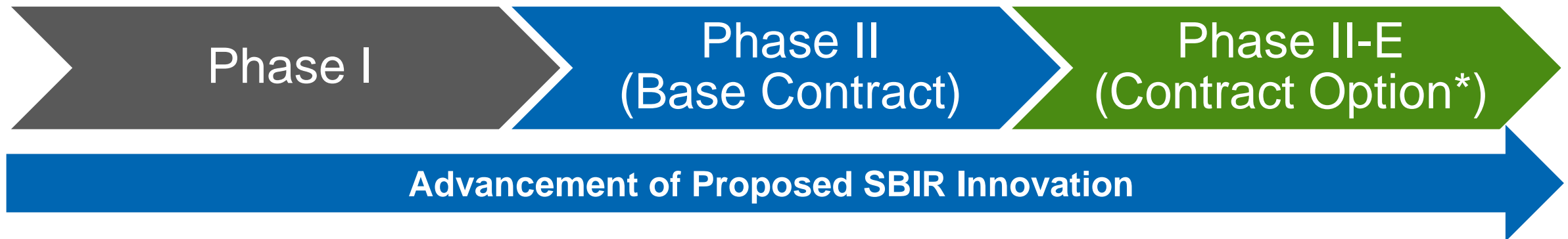


# Post Phase II Opportunities

# Phase II Extended (II-E)



- **Purpose:** Encourage the advancement of innovations developed under Phase II via **an option** to further R/R&D efforts underway **on active Phase IIs**
- **Eligibility:** II-E funding is available for **Phase II awardees only**
- **Benefit to Firms:** Continued development
- **Benefit to Investors:** Matching funding for innovative R&D



\*Note: Currently, II-E is a built-in contract option; future implementations may leverage other contracting mechanisms

# Phase II Proposal Formulation



- Many applications are submitted at or near the end of the II-E eligibility period.
- Many firms have expressed challenges getting timely commitments with respect to their Phase II progress.
- Consider putting together a Phase II work plan that addresses **at the outset** factors necessary for stakeholder buy-in in a timely manner; these may include but are not limited to:
  - Developmental milestones with **key performance parameters/targets**
  - Key (early) demonstrations that stakeholders consider **critical “gates”**
  - **Risk reduction** activities
  - **TRL advancement**

# Did you know?



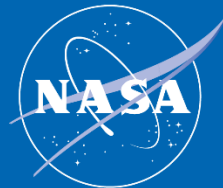
Post Phase II awards help bridge the **Valley of Death**; your Phase II work can **set the stage** for Post Phase II success.



# Focused Q&A 2

Topics: Commercialization and Business Plan; TABA; Post Phase II Opportunities



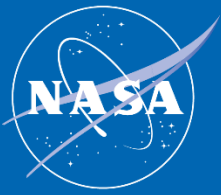


# Open Q&A



# Key Takeaways

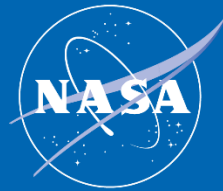
# Key Takeaways



- 1. For SBIR firms, read the solicitation NOW and plan for your Phase II submission**
  - Visit the NASA SBIR/STTR website to read the solicitation.
- 2. Plan to submit early**
  - If possible, submit the proposal two (2) days before the deadline to address any issues.
- 3. Check your SAM Registration**
  - SAM registrations must be updated annually; check to make sure it is up to date prior to submission.
- 4. Provide enough information in the commercialization plan to indicate you have a path forward for market adoption of the innovation**
  - Keep stakeholders apprised of progress/status; involve in reviews/briefings if possible.
  - Make sure stakeholders are aware of your timing (contract, II-E window) and Phase III abilities.
- 5. Utilize the TABA program to help develop your future plans for commercialization**
  - Focus on product sales, IP protections, market research, market validation, and development of regulatory plans and manufacturing plans.
- 6. Recognize that the commercialization plan and TABA can lead to success in developing a Phase II-E proposal**
  - Pertinent to II-E, this may inform whom to approach for potential matched funding and their needs and technology use implications.



# Success Stories



Tendeg, LLC develops deployable space structures and antennas that help us observe Earth

## Tendeg, LLC

**LOCATION:** Louisville, CO

- **\$45 million** in revenue attributed to SBIR-related developments supporting NASA and commercial space missions
- Grew from a technology consulting company into a provider of space antennas and deployable structures that **help improve observations of Earth**
- Received **Phase II-E** and **Phase III funding** from NASA's Surface Deformation and Change (SDC) study, with NASA SBIR matching funds on the Phase II-E
- Contributed tech to various NASA and commercial **Earth science research projects**
- Supported Lockheed Martin's **Desert Rose Deployable Satellite Antenna**

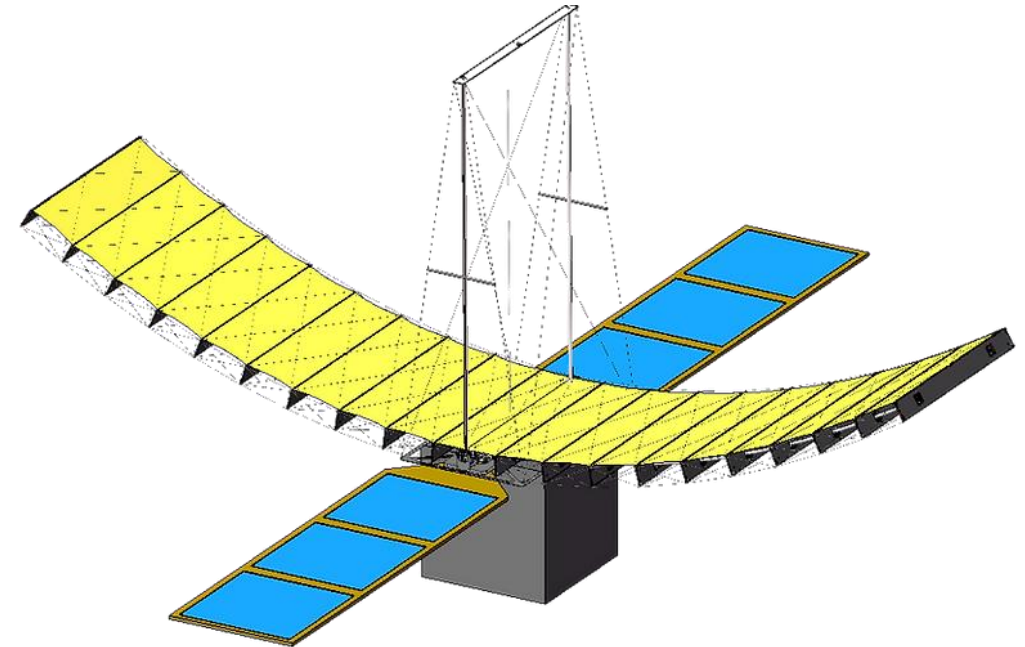
**READ MORE:** [Web](#) | [PDF](#)

# Success Story: Data Collection Tech for Earth Science Research



Anything that went down the full SBIR path has gone to a full commercialization opportunity.

– **Gregg Freebury**  
*Tendeg Founder, President,  
and CEO*



Tendeg's SAR antenna is designed to be compactable to reduce mass and storage space without compromising the required aspect ratio



# Success Story: Weaving Biopolymers from Methane for Earth and Space



The fashion industry is investing in Mango Materials' sustainable fibers made from bioplastic

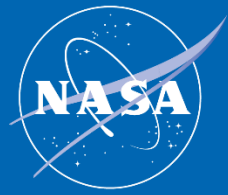
## Mango Materials

**Location:** San Francisco, California

- Woman-owned small business partnered with the Colorado School of Mines on NASA **STTR Phase I, II, and II-E awards**
- Adapted a bioreactor system to **convert methane into bioplastic**
- Secured **\$6 million in CCRPP funding** from NASA STTR and **fashion industry investors**
- **Space Application:** Use waste methane on the ISS or atmospheric methane on Mars to 3D print objects and provide polymers for construction
- **Earth Application:** Convert methane into environmentally conscious biopolymers as an alternative to plastic fibers like polyester

**READ MORE:** [Web](#) | [PDF](#)

# Success Story: Weaving Biopolymers from Methane for Earth and Space



It seemed like an amazing opportunity to fund the growth of the business. Commercialization has been our focus on Earth and beyond.

– **Dr. Allison Pieja**  
*Mango Materials*  
*CTO*



Mango Materials' founders Dr. Molly Morse, Dr. Allison Pieja, and Dr. Anne Schauer-Gimenez are developing systems to convert methane into usable material



# Questions?

Visit our website:  
**[www.sbir.nasa.gov](http://www.sbir.nasa.gov)**

